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AUTHOR Striffler, Nancy; And Others
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ABSTRACT

A videotape designed to teach the color red to 18 retarded children (ages 3-5 years) was tested in comparison to traditional methods of instruction. The children were divided into three groups, one viewed the experimental videotape, one traditionally taught videotape, and one a non-televised traditional presentation, each was instructed by the selected method twice a day for four consecutive days. No significant difference was found among the three conditions. Results suggest that presentation of common objects, familiar child-like situations, and requests for viewer participation were most successful in gaining orientation; and that television instruction might be an effective tool in the language development program of retarded children. (Author/PHR)

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Comparison of Audiovisual and Traditional Methods for Teaching Language Concepts to Retarded Children

Nancy Striffler, Jacquelyn M. Feiner, and Thomas R. Linscheid

Georgetown University Medical School

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Address:

Nancy Striffler
UAPCD-Bles
Georgetown University Hospital
3800 Reservoir Road, N.W.
Washington, D.C. 20007

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Abstract

A videotape designed to teach the color red to retarded children was tested in comparison to traditional methods of instruction. Presentation of common objects, familiar child-like situations and requests for viewer participation produced the greatest degree of orientation by the subjects. Results suggest that televised instruction might be effectively incorporated into the language development program of retarded children.

Comparison of Audiovisual and Traditional Methods for Teaching Language Concepts to Retarded Children

Educators of mentally retarded individuals have long recognized the short attention span, the need for repetition, and the systematic control of stimulus complexity that characterize the demands of this population in learning situations. The incidence of language delays in the mentally retarded population is high and now with PL 94-142 the demand to teach language skills to the retarded child within the classroom is being felt. There is a shortage of teachers trained to meet these specific language needs and effective procedures which are economically feasible must be developed which will aid in meeting the needs of mentally retarded children. This report describes an initial effort to develop a series of videotapes which would teach language related concepts.

Lenneberg (1966) has shown that mentally retarded children learn in the same manner as nonretarded children, but more slowly. In a series of studies summarized by Chu and Schramm (1967) television presentations were shown to be effective for teaching nonretarded children a number of cognitive skills including language. In a study of 943 nonretarded preschool children Ball and Bogatz (1970) found that children from a variety of backgrounds acquired simple and complex cognitive skills as a result of watching the Sesame Street program.

While limited in number there are reports in the literature that suggest the effectiveness of audiovisual presentations for mentally retarded individuals. Our own observations of retarded residents in institutions suggest that they attend to television for long periods of time. Striefel and Smeets (1974) supported this observation in a recent study in

which they documented that mentally retarded children show high rates of attention for television and actively select programs over blank presentations and programs over no program when operant methods are provided.

In a recent study, Ardi (1976) showed selected Sesame Street segments to mentally retarded and normal preschool children. No difference was found between groups in attention, however, the mentally retarded group showed a higher level of participation (e.g. getting up and pointing, repeating words) in the content of the taped presentations. Ardi also developed special Sesame Street segments with gross motor activity goals and assessed the mentally retarded subjects' comprehension of the goals which was found to be high.

Stowitzchek and Herb (1971) investigated the effect of a televised language development program for institutionalized mentally retarded children. Groups that were exposed to televised language instruction scored significantly better in picture discrimination and picture naming over groups which received no television instruction. In addition, they found that the verbal subjects receiving television instruction showed significantly better results than the nonverbal subjects who received the same.

It is clear from this review that while television presentation for instructing the mentally retarded population is promising, further investigation is warranted.

The specific objective of this investigation was to determine if mentally retarded children attend better and learn language concepts more quickly from fast-paced, repetitive videotaped procedures than more

traditional teaching methods. This report describes the development and testing of a 4 1/2 minute videotape designed to teach the color red to retarded children and to test its effectiveness in comparison to traditional methods of instruction. Borrowing from the Sesame Street concept, the visual component of the tape employed rapid succession of objects, two-dimensional cut-outs and live action vignettes. In addition, lively music and auditory pairing of the word red with the visuals were used to further reinforce the concept.

Subjects for this investigation were eighteen children aged 3 to 5 years who had cognitive and language delays of at least one year and did not know the color red. In order to eliminate the disruptive effects of an unfamiliar environment the children participated in their regular community centers. The children were randomly assigned to one of three groups. The six experimental subjects viewed the experimental videotape individually twice a day for four consecutive days. Posttests were administered after each viewing. There were two control groups. A television control group of six subjects was shown a televised segment of a traditional method for teaching the color red conducted by a speech pathologist. This differed from the experimental tape in that it employed a fixed focal length with the camera focused head-on the therapist who was seated in front of an uncluttered background. No special audiovisual effects including editing were used. Both televised programs were presented in a darkened room. A nontelevised control group of six subjects was presented the traditional training method by the same speech pathologist shown in the televised control group. Both control presentations were the same length as the

experimental. Subjects in the two control groups were also shown their respective presentations twice a day for four consecutive days and were posttested in the same manner as the experimental subjects. Following each viewing each child was posttested by being asked to select the red cube from four cubes which were presented in a random sequence on five consecutive trials. Percent of correct responses for the five trials served as a measure of learning and a learning criterion of 80% correct on two consecutive trials was used. In addition, each condition employed a monitor-recorder. The monitor served to keep the subjects in their chairs during the presentation by verbal direction first, then by physical placement if necessary. The monitor also recorded the child's orientation toward the presentation. For each 10 second interval during the presentation the child was scored for orientation or nonorientation. An interval was scored for orientation if the subject's head did not deviate more than 45° from the presentation. Reliability of this measure was greater than 90%.

An analysis of variance of posttest data revealed no significant difference between groups. Also the main effect for trials was not significant. Only one child in each group met the established criterion for learning after the eight trials. A trend analysis revealed a significant linear trend across trials ($F = 8.65$, 1/105 df, $p < .01$) suggesting that learning was occurring.

In addition, the interest value of the various tapes was examined by determing the percent of 10 second intervals scored for orientation. An analysis of variance revealed a significant trials by condition interaction

($F = 1.94$, 14/105 df, $p < .05$). Subjects in the experimental tape condition tended to orient less during the early trials, however, this difference disappeared in later trials.

Orientation data was further analyzed by looking at the percent of orientation for each 10 second interval across all trials for all subjects. This allowed us to determine the relationship of orientation to tape content for each 10 second interval. We then looked at the tape segments where orientation was high and low. An analysis of variance was significant ($F = 16.7$, 7/189, $p < .01$) for the interval variable and was of borderline significance ($F = 2.44$, 2/18 df, $p < .10$) for the experimental conditions. The lowest amount of orientation corresponded to a segment in the traditional tape and a segment in the live presentation in which the therapist repetitively presented small blocks while verbalizing "red" for red blocks or "no" for non-red blocks. Another low segment was noted at the outset of the experimental tape in which a full screen close-up of a twirling umbrella was shown. In examining segments in which orientation was highest, the greatest amount of orientation corresponded to rapid presentation of common objects, human figures performing familiar child-like activity and requests for viewer participation. Anecdotally it was observed that some children actually went up to the screen and pointed to objects when requested.

Since this research is viewed by the authors as a pilot investigation, the results must be viewed cautiously. The results are encouraging for further research and suggest that televised instruction might be effectively incorporated into the language development program of retarded children.

Even though no significant difference was found in learning rates between conditions, the significant trend indicates that learning may have been occurring in all three groups. It is impossible to say whether more trials would have revealed a difference between groups. In future studies it would be important to provide more opportunities for learning to occur by extending the number of trials.

Perhaps the most important outcome of this study is the questions that have been raised. Working under the assumption that children can learn from videotaped presentations and that orientation is related to learning, the direction of future research should be towards a more detailed investigation of tape content and style of presentation. Results of our study suggest that common objects, familiar situations and viewer participation are important content variables. Other areas of investigation would involve presentation length, massed vs. distributed practice, group learning compared to individual learning, and determination of content style in relation to developmental level. An additional consideration would be to determine whether the use of several tapes to teach the same concept is more effective than repetition of the same tape. If these questions can be answered and an effective program developed, the authors feel that a significant contribution will be made to meeting the language needs of the retarded child.

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Footnote

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